

NEWS

Acute high sugar diet declines cognitive function

Western diet rich in fat and sugar content is well-known for its negative health benefits. Recently, it has been reported that short-term consumption of high sugar content worsens the deleterious effects of fat diet alone on hepatic steatosis and lipid metabolisms.^[1] On feeding the rats with low-fat diet, high-fat diet, and western diet (both high-fat and high sugar diet) for 2 weeks,^[1] it was observed that high-fat and high sugar diet exacerbated the impairments of the liver compared to high-fat diet alone. Diet with high sugar content has been reported to increase the liver fat accumulation and decrease insulin sensitivity in adult rats.^[1] Studies have also reported the association of high sugar diet with increased abdominal fat deposition.^[2] It has been reported that high sugar intake increases the risk of developing mild cognitive impairments in subjects above 70 years 3.6 times more than their counterparts, who had high-fat and protein content in their diet.^[3] It is suggested that the increased sugar content in diet impairs the brain from using the sugar similar to the condition observed in type 2 diabetes mellitus. According to the study published in the journal neuroscience, the change in gut bacteria appears to be linked to the significant loss of cognitive flexibility in rats on high sugar and high-fat diet.^[4] Microbes release

compounds such as neurotransmitters, which can communicate with the human brain to regulate a wide range of biological function. Therefore, the increased sugar content in the diet (western diet) might alter the healthy bacterial systems, resulting in cognitive impairment.

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Are asthmatic men protective against prostate cancer mortality?

Researchers from Johns Hopkins Bloomberg School of Public Health in Baltimore have published a surprising finding that 'the men with history of asthma were 29% less likely to have been diagnosed with prostate cancer or to die of the disease' in the *International Journal of Cancer*, 2015.^[1] The study participants consisted of a large cohort of 47,880 men aged 40–75 years and did not have any cancer diagnosis at the time of recruitment. On follow-up from 1986 through 2012, they have observed that 'the asthmatic men were 36% less likely to face prostate cancer related mortalities.'^[1] These findings have been a topic of debate, as the asthma by itself is a chronic inflammatory condition,^[2] particularly type 2 helper (TH2)

cell induced inflammation, which is expected to increase the risk of cancer.^[3] In contrast, these men with history of asthma had a relatively lower risk of prostate cancer.^[1] It is suggested that the Th2 inflammation involved in the pathogenesis of asthma might be different from the Th2 inflammation that mediates the development of cancer. Alternatively, authors have also suggested the increase in the levels of active immune cells in asthmatic patients could attack the tumor cells, resulting in lesser incidence of prostate cancer. However, researchers could not prove the cause and effect relationship between asthma and prostate cancer. Further, studies have been initiated to evaluate the immune profile associated with asthma, to

reveal the plausible link responsible for the protective effects of asthma against prostate cancer morbidities.

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VIEWS

Health benefits of stevia: A natural sweetener

Stevia is a plant that belongs to sunflower family *Asteraceae* (Tamil Name - Inippu thulasi, Sanskrit name - Madhu patra), commonly known as sweet leaf or sugar leaf. There are more than 100 species of stevia plant, but "*Stevia rebaudiana*" is an excellent sweetener, with 0% carbohydrates, 0% fat and zero calories. The major sweetening compounds present in sweet leaf are stevioside and rebaudioside A. The refined extract of stevioside (sweet flavored component) has been reported to be 200–300 times sweeter than table sugar. Several studies have highlighted the potent antioxidant property of stevia. It also contain high levels of folic acid and vitamin C. Therefore, stevia could be a great natural dietary supplement for individuals suffering from diabetes, obesity, dyslipidemia, hypertension and cardiovascular diseases. Stevia stimulates the production and release of insulin from pancreas and thus improves insulin sensitivity, and also regulates blood

sugar levels by decreasing the absorption of glucose in the gut. Sterols and antioxidants present in stevia especially kaempferol has been reported to reduce the risk of pancreatic cancer by 23%. Though, controversies rose on the mutagenic effects of stevia plant and its processed products, World Health Organization (2006) have declared stevia as harmless for human use. Therefore, consuming stevia as a dietary supplement in diabetic patients should be highly recommended by physicians.

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